

Monthly Operations Report

for the Municipality of Casselman's Water and
Wastewater Systems

November 2022



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Table of Contents

Section 1 - Monthly Operations Report Card

Section 2 - Facility Listing

Section 3 - Compliance

Section 4 - Facility Performance

Section 5 - Drinking Water Quality Management System (DWQMS)

Section 6 - Maintenance / Capital / Added Value

Section 7 - Complaints

Section 8 - Recommendations / General Comments

Appendices

Appendix A – Performance Assessment Reports

Appendix B – Work Order Summary Report

Appendix C – Locate Summary

Appendix D – AWQI Notification to MECP



SECTION 1 – MONTHLY OPERATIONS REPORT CARD

Operations and Compliance Reliability Indices

Legend					
✓	●	▲	✗	Y/N	N/A
Achieved	On Target	Caution	Not Achieved	Yes/No	Not Applicable

	Target	October 2022	Comments
Health & Safety			
Number of Incidents	0	●	
<i>Actual Result</i>		0	
Drinking Water			
Inspection Ratings (YTD)	100 %	●	
<i>Actual Result</i>		100 %	
AWQI's	0	✗	
<i>Actual Result</i>		1	
Number of Non-Compliances	0	●	
<i>Actual Result</i>		0	
Number of Water Main Breaks	0	●	
<i>Actual Result</i>		0	
Number of Complaints	0	●	
<i>Actual Result</i>		0	
Water Main Flushing	0	●	
<i>Target Achieved</i>		0	
Wastewater			
Number of Non-Compliances	0	●	
<i>Actual Result</i>		0	
Number of Bypasses	0	●	
<i>Actual Result</i>		0	
Number of Sanitary Sewer Back-ups	0	●	
<i>Actual Result</i>		0	
Sanitary Collection System Flushing	Y	●	
<i>Target Achieved</i>		Y	
Preventive Maintenance			
Work Orders Completed	>95%	●	
<i>Target Achieved</i>		Y	

SECTION 2 – FACILITY LISTING

Water Treatment & Distribution

Facility	Type
5971 - Casselman Water Treatment Plant	1 WTP (Actiflo Process)
1553 - Casselman Water Distribution System	1 Water Storage Tower + Water Distribution System

Wastewater Treatment & Collection

Facility	Type
1501 - Casselman Wastewater Treatment Plant	3 Facultative Lagoon Cells 1 MBBR (Moving Bed Biofilm Reactor)
5976 - Casselman Wastewater Collection System	6 Sewage Pumping Stations + Wastewater Collection System

SECTION 3 – COMPLIANCE

There were no compliance issues to report for Casselman’s wastewater treatment system.

One AWQI was reported for Casselman’s Drinking Water System. The monthly filter performance criteria of <0.3 NTU 95% of the time was not achieved for the month of November.

Please see the AWQI notification submitted to MECP, attached in Appendix D.

The most recent MECP inspections are listed below:

Location	Inspector	Inspection Rating (%)	Date
Casselman Water	Jean-Francois Durocher	100	March 10, 2022
Casselman Sewage	<i>*OCWA has no recent sewage system inspections on file.</i>		

There are no outstanding actions required from any recent MECP inspections.

SECTION 4 – FACILITY PERFORMANCE

Please see the Water & Wastewater Performance Assessment Reports attached in Appendix A.

SECTION 5 – DRINKING WATER QUALITY MANAGEMENT SYSTEM (DWQMS)

OCWA received accreditation for Casselman’s Drinking Water System in August 2019.

The 2022 Re-Accreditation Audit by SAI Global took place in November.

SECTION 6 - MAINTENANCE / CAPITAL / ADDED VALUE

Water Treatment & Distribution

- Responded to twelve after-hours call-in alarms
- Filter #1 effluent valve calibrated
- Arranged for inspection of raw water intake structure
- Arranged for analysis of filter media
- All flowmeter calibrations/verifications completed by Capital Controls
- Replaced problematic filter turbidity analyzer with OCWA spare unit until a new unit can be purchased
- Replaced check valve and air relief on one high lift pump

Wastewater Treatment & Collection

- Responded to two after-hours call-in alarms
- Cleaned grease build-up in wet well at SPS#5
- Replaced failed level transmitter at SPS#5
- Capital Controls in to verify flow meters at SPS #1 and lagoon
- Annual generator maintenance completed at SPS #6

Preventive Maintenance Plan (PMP) Work Order Summary

All required work orders were completed. Please refer to the summary reports attached in Appendix B.

SECTION 7 – COMPLAINTS

Facility	Date	Description
		None to report

SECTION 8 – RECOMMENDATIONS / GENERAL COMMENTS

General

- 41 locates were completed in November.

Water Treatment & Distribution

- Approved Capital & Major Maintenance work for 2022 is ongoing

Wastewater Treatment & Collection

- Wastewater sampling as part of Queen’s University’s Covid sampling program continued in November.

Appendix A

Performance Assessment Reports



ONTARIO CLEAN WATER AGENCY PERFORMANCE ASSESSMENT REPORT

MUNICIPALITY: MUNICIPALITY OF CASSELMAN
PROJECT: CASSELMAN DRINKING WATER SYSTEM
DESCRIPTION: SURFACE WATER TREATMENT PLANT
CHEMICALLY ASSISTED FILTRATION

YEAR: 2022
WATER SOURCE: NATION RIVER
DESIGN CAPACITY: 3182 m3/d
WORKS NUM.: 210001219

MONTH	SYSTEM FLOWS (TREATED)			TREATED		DISTRIBUTION		RAW					TREATED					DISTRIBUTION	
	Total Flow (m ³)	Avg. Flow (m ³)	Max Day Flow (m ³)	Min. Free Cl ₂ Resid. (mg/L)	Max Free Cl ₂ Resid. (mg/L)	Min Combined Cl ₂ Resid. (mg/L)	Max Combined Cl ₂ Resid. (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Total Hardness (mg/L)	Average Manganese (mg/L)	Max Manganese (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Total Hardness (mg/L)	Average Manganese (mg/L)	Max Manganese (mg/L)	THM (µg/L) quaterly	HAA (µg/L) quaterly
JAN	30632	988	1389	0.96	2.60	1.08	2.48	6.00	6.00	398.00	0.10	0.12	3.30	3.30	401.00	0.09	0.72	58.00	41.30
FEB	28433	1015	1367	0.78	2.60	1.06	2.37	3.60	4.70	478.00	0.18	0.90	2.00	2.50	480.00	0.08	0.14	-	-
MAR	31167	1005	1296	1.32	2.61	0.50	2.61	7.30	9.70	138.00	0.17	0.72	3.70	4.20	287.00	0.12	0.58	-	-
APR	31432	1048	1373	0.75	2.59	0.85	2.10	7.70	7.70	267.00	0.08	0.09	3.40	3.40	264.00	0.03	0.04	58.00	43.40
MAY	37972	1225	2029	0.39	2.24	1.04	2.10	6.30	6.30	285.00	0.11	0.19	2.90	2.90	282.00	0.03	0.07	-	-
JUN	37112	1237	1483	0.73	3.25	0.85	2.20	7.30	7.30	308.00	0.09	0.15	3.50	3.50	308.00	0.02	0.04	-	-
JUL	40529	1307	1618	0.44	2.74	0.58	1.83	7.80	7.80	344.00	0.18	0.35	3.70	3.70	333.00	0.03	0.04	163.00	126.00
AUG	39559	1276	1703	0.64	2.94	0.52	3.58	11.30	11.30	293.00	0.15	0.33	5.60	5.60	288.00	0.06	0.17	-	-
SEP	38211	1274	1828	0.67	2.64	0.76	2.06	8.40	8.40	297.00	0.25	0.61	3.10	3.10	311.00	0.05	0.16	-	-
OCT	33824	1091	1596	0.50	2.25	0.89	2.18	5.70	5.70	315.00	0.09	0.24	2.30	2.30	313.00	0.03	0.04	105.00	77.80
NOV	33551	1118	1602	0.44	2.24	0.82	1.98	6.35	6.35	339.00	0.11	0.16	2.65	2.65	345.00	0.04	0.07	-	-
DEC																			
TOTAL	382,421																		
AVG		1,144						7.07	7.39	314.73	0.14		3.29	3.38	328.36	0.05		96.00	72.13
MAX			2,029		3.25		3.58					0.90					0.72		
MIN				0.39		0.50													
CRITERIA			3,182	CT		0.25	3.00											<100	<80

MONTH	SYSTEM FLOWS (RAW)			ACTIFLO FILTER #1		ACTIFLO FILTER #2		Efficiency	TANK		TREATED			E. coli / Total Coliform / HPC (Number of Samples Collected)				RAW WATER	
	Total Flow (m ³)	Avg. Day Flow (m ³)	Max. Flow (m ³)	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Turbidity % < 0.3 NTU	Backwash TSS (mg/L)	Supernatant TSS (mg/L)	Avg. Turbidity (NTU)	Max. Turbidity (NTU)	Min UV Intensity (mJ/cm ²)	Safe		Adverse		Max. Count	Max. Count
														Treated	Distribution	Treated	Distribution		
JAN	38152	1231	1618	0.07	0.38	0.35	0.80	99.97	< 3	3	0.37	0.60	61	5	15	0	0	140	38
FEB	34681	1239	1686	0.08	0.24	0.06	0.69	99.93	7	6	0.61	0.98	70	4	12	0	0	17600	117
MAR	37198	1200	1546	0.11	0.39	0.07	0.78	99.85	3	6	0.53	0.94	67	4	12	0	0	180	51
APR	38033	1268	1824	0.13	0.33	0.10	0.60	99.88	6	6	0.34	0.97	76	4	12	0	0	470	20
MAY	46116	1488	2668	0.17	0.75	0.15	0.86	97.98	14	< 3	0.48	3.33	55	5	15	0	0	180	32
JUN	45684	1523	1796	0.14	0.41	0.13	0.78	99.39	< 3	4	0.50	0.76	56	4	12	0	0	260	28
JUL	49779	1606	2058	0.18	0.61	0.16	0.53	98.24	5	3	0.65	1.11	52	4	12	0	0	29	11
AUG	49799	1606	2164	0.13	0.41	0.12	0.55	99.90	9	5	0.61	2.66	65	5	15	0	0	150	58
SEP	47138	1571	2204	0.14	0.56	0.12	0.50	99.83	23	6	0.82	2.08	71	4	12	0	0	420	14
OCT	42638	1375	1869	0.41	0.96	0.39	0.89	36.19	5	48	0.74	2.73	64	5	15	0	0	30	13
NOV	41774	1392	1908	0.30	0.74	0.19	0.84	72.31	20	9	0.67	3.01	61	4	12	0	0	290	96
DEC																			
TOTAL	470,992													48	144	0	0		
AVG		1,409		0.17		0.17		91.22	8.6	8.9	0.57								
MAX			2,668		0.96		0.89		23	48		3.33						17600	117
MIN													52.00						
CRITERIA			3,182		<1		<1	>95%				<5	>40						

COMMENTS:

**ONTARIO CLEAN WATER AGENCY
PERFORMANCE ASSESSMENT REPORT**

OWNER: MUNICIPALITY OF CASSELMAN
PROJECT: CASSELMAN WASTEWATER TREATMENT SYSTEM
ECA NUM.: 8160-BAHPRF
DESCRIPTION: MOVING BED BIOLOGICAL REACTOR (MBBR) TREATMENT LAGOON

YEAR: 2022
WATER COURSE: NATION RIVER
DESIGN CAPACITY: 2,110 m³/d
FACILITY WORKS#: 110002201

MONTH	RAW								EFFLUENT										
	Total Flow m ³	Avg Day Flow m ³	Max Day Flow m ³ /d	Avg Alum Dosage (mg/L)	Avg Raw BOD5 (mg/L)	Avg Raw TSS (mg/L)	Avg. Raw TKN (mg/L)	Avg Raw TP (mg/L)	Effluent Flow m ³	Effluent Avg Flow m ³	Effluent Max Flow m ³ /d	Avg CBOD5 (mg/L)	Avg TSS (mg/L)	Avg TAN (mg/L)	Avg TP (mg/L)	Avg TKN (mg/L)	Avg Nitrate (mg/L)	Avg Nitrite (mg/L)	E. coli (cfu/100 mL)
JAN	33,727	1,088	1,355	134	166	300	79.3	8.86	76,800	2,477	3,120	4.1	16	9.0	0.2	-	10.5	1.3	897
FEB	33,078	1,181	1,281	142	247	530	79.8	8.30	40,171	1,435	1,440	4.0	12	9.2	0.4	18.7	18.6	0.7	858
MAR	65,061	2,099	3,300	155	198	385	33.5	3.11	34,836	1,124	3,944	6.0	8	11.2	0.5	14.5	17.0	0.1	600
APR	63,658	2,122	2,902	133	266	276	44.2	5.32	112,967	3,766	4,998	6.3	13	4.7	0.5	8.3	12.9	0.6	16
MAY	48,681	1,570	1,928	133	160	250	52.1	6.16	69,662	4,644	4,998	4.0	19	0.1	0.3	2.4	13.2	0.1	1
JUN	41,926	1,398	1,589	142	310	450	47.3	6.72											
JUL	37,334	1,204	1,319	170	236	670	51.8	7.79											
AUG	41,452	1,337	1,567	194	406	480	67.8	8.86											
SEPT	40,759	1,359	1,572	181	396	345	70.3	7.97											
OCT	34,063	1,099	1,276	190	309	720	55.0	7.37	61,260	2,112	2,630	3.0	7	0.2	0.4	4.1	7.4	0.3	6
NOV	35,191	1,173	1,489	191	358	550	102.0	11.30	102,364	3,412	3,930	5.5	10	2.3	0.4	6.8	7.8	0.1	15
DEC																			
TOTAL	474,930								498,059										
AVG		1,421		160	277	451	62	7.43		2,710		5	12	5	0.4	9	12	0.4	342
MAX			3,300		406	720	102	11			4,998	6.25	18.5	11.22	0.48	18.7	18.62	0	897.1
CRITERIA											5,000								
COMPLIANCE											YES								

MONTH	UPSTREAM				DOWNSTREAM*			
	Avg CBOD5 (mg/L)	Avg TSS (mg/L)	Avg TAN (mg/L)	Avg PHOS. (mg/L)	Avg CBOD5 (mg/L)	Avg TSS (mg/L)	Avg TAN (mg/L)	Avg PHOS. (mg/L)
JAN	4.6	11.6	4.86	0.22	-	-	-	-
FEB	3.0	7.0	0.64	0.07	-	-	-	-
MAR	3.0	102.3	0.12	0.22	-	-	-	-
APR	3.0	24.0	0.08	0.08	3.0	15.0	0.11	0.04
MAY	3.0	21.0	0.03	0.08	3.0	32.5	0.06	0.05
JUN								
JUL								
AUG								
SEPT								
OCT	3.0	10.6	0.03	0.07	3.4	15.2	0.03	0.08
NOV	3.0	11.0	0.04	0.06	3.0	9.3	0.09	0.13
DEC								
TOTAL								
AVG	3	27	1	0.1	3	18	0	0
MAX	4.6	102.25	4.86	0.22	3.4	32.5	0.11	0.13
CRITERIA								
COMPLIANCE								

Comments:

*No Downstream samples were taken due to ice cover on the Nation River (Jan - Feb - Mar)

Appendix B

Work Order Summary Reports



Monthly Work Order Summary – November 2022

Casselman Drinking Water System

Description	Status	Work Type
Analyzer Total Chlorine Inspection/Service (1m) 5971	COMP	PM
Analyzer pH Inspection/Service (1m) 5971	COMP	PM
Analyzer Turbidity Inspection/Service (1m) 5971	COMP	PM
Blower Centrifugal Inspection/Service (1m) 5971	COMP	PM
Air Compressor Inspection/Service (1m) 5971	COMP	PM
Dryer Air Service (1m) - 5971	COMP	PM
Generator Inspection (1m) 5971	COMP	PM
Weight Scale Calibration (1y) 5971	APPR	PM
PANEL ALARM/DIALER TEST (1m) - 5971	COMP	PM
Pump Vertical Turbine Lo Lift 101 Insp/Service (1y) 5971	APPR	PM
Pump Centrifugal 02 UV Room Inspection/Service (1y) 5971	APPR	PM
UV Light Bank Insp/Service (1m) - 5971	COMP	PM
Workplace Inspection (1m) - 5971	COMP	OPER
Monthly H&S Equipment Check (1m) - 5971	COMP	PM
Client Reports (1m) - Casselman 5971	COMP	PM
UVT Sensor Checks/Calibration (1m) - 5971	COMP	PM
Pump Diaphragm Coagulant Route Inspection/Service (1m) 5971	COMP	PM
Pump Diaphragm Polymer Route Inspection/Service (1m) 5971	COMP	PM
Pump Diaphragm Sodium Hydroxide Route Inspection/Service (1m) 5971	COMP	PM
Pump Diaphragm Ammonium Sulphate Route Inspection/Service (1m) 5971	COMP	PM
Pump Diaphragm Potassium Permanganate Route Inspection/Service (1m) 5971	COMP	PM
Analyzer Chlorine Portable Verification Caroline (1m) 1555	COMP	PM
Casselman WTP 5971 Activflo Filter Effluent Modulating Valve Repair	APPR	CAP
Casselman WTP 5971 Intake Cleaning and Inspection	COMP	CAP
Casselman wtp-5971 High Level Activflo2	COMP	CALL
Casselman wtp-5971 Monitored plant for levels	COMP	CALL
Casselman wtp-5971 High clearwell	COMP	CALL
Casselman 5971 WTP - Chloramine alarm	COMP	CALL
Casselman 5971 WTP - High turbidity in actiflo #2	COMP	CALL

Monthly Work Order Summary – November 2022
Casselman Drinking Water System

Casselman 5971 WTP - High turbidity and acitflo #2 lockout	COMP	CALL
Casselman 5971 WTP - Actiflo #2 settling tank no sand cyclone plugged	COMP	CALL
Casselman Dist 5971 Activflo 2 Valve replacement	APPR	CAP
UV Sensor Reference Check/Calibration (1m) - 5971	COMP	PM
Casselman 5971 WTP - High filtered water turbidity	COMP	CALL
Casselman 5971 WTP - High turbidity and issues with acitflo #1	COMP	CALL
Casselman 5971 WTP - High filtered water turbidity and acitflo 1 issues	COMP	CALL
Casselman 5971 WTP - High distribution turbidity	COMP	CALL
Casselman 5971 WTP - Actiflo #2 lockout due to back-to-back backwashes	COMP	CALL

Monthly Work Order Summary – November 2022
Casselman Wastewater Treatment & Collection System

Description	Status	Work Type
Generator Inspection (1m) SPS #1 1501	COMP	PM
Generator Inspection (1m) SPS #2 1501	COMP	PM
Generator Inspection (1m) SPS #3 1501	COMP	PM
Generator Inspection (1m) SPS #5 1501	COMP	PM
Generator Inspection (1m) SPS #6 1501	COMP	PM
Generator Inspection (1m) 1501	COMP	PM
Analyzer Turbidity Inspection/Service (1m) 1501	COMP	PM
Monthly H&S Equipment Check (1m) - 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Blower Inspection/Service (1m/1y) 1501	COMP	PM
Bar Screen Inspection (1m) 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
PANEL ALARM/DIALER TEST (1m) - 1501	COMP	PM
Workplace Inspection (1m) - 1501	COMP	OPER
Casselman Sewage 1501 Outfall Cleaning and Inspection	APPR	CAP
Casselman 1501 - SPS 5 issues with level meter and over pumping	COMP	CALL
1501 - SPS5 - Level Transmitter Fault	COMP	CALL

Appendix C

Locate Summary



Casselman Monthly Locate Summary – November 2022

Description	Status	Work Type
Locate Casselman WDS 1553 - 2022431099 - Principale and Fillion	COMP	OPER
Locate Casselman WDS 1553 - 20224419099 - 621 St Isidore	COMP	OPER
Locate Casselman WDS 1553 - 20224419433 - 14 Sarah St	COMP	OPER
Locate Casselman WDS 1553 - 2022454739 - 697 Dollard	COMP	OPER
Locate Casselman WDS 1553 - 2022455157 - Principale St	COMP	OPER
Locate Casselman WDS 1553 - 2022457838 - HWY 417	COMP	OPER
Locate Casselman WDS 1553 - 2022457844 - HWY 417	COMP	OPER
Locate Casselman WDS 1553 - 20224510908 - 753 St Joseph	COMP	OPER
Locate Casselman WDS 1553 - 2022461243 - 720 St Joseph	COMP	OPER
Locate Casselman WDS 1553 - 20223911252 - 34 Gagne Cres	COMP	OPER
Locate Casselman WDS 1553 - 20224217347 - Principale St	COMP	OPER
Locate Casselman WDS 1553 - 20224511909 - 723 St Joseph	COMP	OPER
Locate Casselman WDS 1553 - 20224511912 - 30 Desnoyers	COMP	OPER
Locate Casselman WDS 1553 - 20224513738 - 735 St Isidore	COMP	OPER
Locate Casselman WDS 1553 - 20224514308 - 833 St Isidore	COMP	OPER
Locate Casselman WDS 1553 - 2022461552 - 720 to 714 ST Isidore	COMP	OPER
Locate Casselman WDS 1553 - 2022461566 - 734 to 728 St Isidore	COMP	OPER
Locate Casselman WDS 1553 - 2022463196 - 374 to 402 Dore St	COMP	OPER
Locate Casselman WDS 1553 - 2022465154 - 14 Sarah St	COMP	OPER
Locate Casselman WDS 1553 - 2022465511 - 796 Levesque	COMP	OPER
Locate Casselman WDS 1553 - 20224611461 - 1075 Rauol Sideroad	COMP	CAP
Locate Casselman WDS 1553 - 20224615075 - 744 St Jean	COMP	CAP
Locate Casselman WDS 1553 - 20224616410 - HWY 417 and Principale St	COMP	CAP
Locate Casselman WDS 1553 - 2022472487 - 832 Laval	COMP	CAP
Locate Casselman WDS 1553 - 2022473836 - 533 Barrage	COMP	CAP
Locate Casselman WDS 1553 - 2022473845 - Conservation St	COMP	CAP
Locate Casselman WDS 1553 - 2022473841 - 410 Dore St	COMP	CAP
Locate Casselman WDS 1553 - 2022473851 - Barrage St	COMP	CAP
Locate Casselman WDS 1553 - 2022475798 - 626 Principale St	COMP	CAP
Locate Casselman WDS 1553 - 2022478185 - 832 Laval St	COMP	CAP
Locate Casselman WDS 1553 - 20224714970 - HWY 417	COMP	CAP
Locate Casselman WDS 1553 - 2022449844 - Principale and St Isidore	COMP	CAP
Locate Casselman WDS 1553 - 20224614783 - Principale St	COMP	CAP
Locate Casselman WDS 1553 - 2022480438 - 568 Route 600	COMP	CAP
Locate Casselman WDS 1553 - 2022483715 - Laurier St	COMP	CAP
Locate Casselman WDS 1553 - 2022487030 - 59 Laurier St	COMP	CAP
Locate Casselman WDS 1553 - 2022489176 - 140 Laurier St	COMP	CAP
Locate Casselman WDS 1553 - 2022489639 - 755 Principale	COMP	CAP
Locate Casselman WDS 1553 - 2022492865 - 623 St Isidore	COMP	CAP
Locate Casselman WDS 1553 - 2022495363 - Richer Cir	COMP	CAP
Locate Casselman WDS 1553 - 2022497064 - 778 Brebeuf St	COMP	CAP
Total		41

Appendix D

AWQI Notification to MECP

